ACONITE: A CASE STUDY IN DOCTRINAL CONFLICT AND THE MEANING OF SCIENTIFIC MEDICINE

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The most dreaded poison has become the best medicine.
(Scopoli)

The pharmacotherapeutic history of the dried tuberous root *Aconitum napellus* offers a unique opportunity to observe the pioneering steps in its therapeutic application, its capture by one of the 19th century's more controversial medical systems, and its gradual assimilation into medical orthodoxy. A review of the literature on aconite adds perspective to the doctrinal conflicts that highlighted the feud between allopathic and homeopathic physicians in the 19th century, the evolution of scientific medicine, and the refinement of diagnosis and prescribing. By the end of the century, orthodox medicine had learned much from its system rival, including the need to know more of disease symptoms and the most appropriate drug usage. While medical orthodoxy objected to any suggestion of having been influenced by homeopathy, the history of aconite clearly suggests a more synoptic view.

CLASSICAL ROOTS

Aconitum napellus was a plant of ancient medicinal value which, according to Charles Pickering, existed in as many as 17 varieties, each belonging to the Ranunculaceae and each containing one of the more virulent poisons known to mankind. The powers of *Aconitum napellus* were dependent upon the alkaloid base aconitine (first discovered by Pallas in 1770) found in all parts of the plant. The root, which resembled a small turnip and identified with the surname *napellus,* from *napus,* which is the Latin for turnip, contained the most uniform proportion of the alkaloid and was the principal source for later drug preparation. Aconitum, its generic name, derived from the Greek *akonae,* signifying "rock." The plant was a native of the mountain regions of the north and middle Europe (prin-

cipally Germany, Switzerland, Spain, and France), Siberia, and Central Asia.[1-4]

Over the centuries aconite was variously called leopard killer, woman killer, brute killer, dog killer, wolfsbane, blue rocket, friar's cap, and monkshood. According to Dioscorides, the term wolfsbane originated because the roots of the plant were mixed with raw flesh and used to kill wolves. The term monkshood, on the other hand, derived from the hooded flower which resembled the cloak worn by monks.[5-9]

Those responsible for preparing the drug were continually warned of the poisonous effects of handling the fresh plant and of inhaling the dust arising during the preparation of the root powder. The poison was considered so deadly that the honey which the bees extracted from the blossoms was thought lethal by Xenophon in the *Anabasis,* as well as by Aristotle and Diodorus Siculus. Even the smell of the blooming plant was considered dangerous to certain constitutions, causing loss of sight or fainting. According to Pliny, its smell at "long distance" could kill rats and mice.[10,11,12]

The origins of aconite, like many of the drugs in the materia medica, extend into the myths and folklore of some of the earliest peoples. When Hercules descended into the lower world to bring up the three-headed dog Cereberus, the froth or spittle from the hell-hound's mouth dropped upon the ground and from this supernatural origin grew the plant *akonitos.* "For it is related that Cereberus, being born, could not endure the rays of the sun, and vomited, and from the vomit sprang the plant. But the Acheron is a river in Heraclea, in Pontica, where Hercules led out the dog from Hades, and the hill is called Aconitos."[13]

According to Diodorus Siculus, aconite was discovered by Hecate, the goddess of witchcraft who, along with Circe, was responsible for introducing many of the early poisons. The women lived on the island of Colchis, whose name is also given to a vegetable poison of venomous reputation. Colchicum was discovered by Medea while Hecate is said to have used aconite by mixing it with the food set before strangers.[12,14]

In the *Metamorphoses* Ovid recounts that Medea the sorceress became the wife of Aegeus and because of her jealousy persuaded him to offer a cup of poison to his son Theseus.

> For him a bowl of deadly Aconite she drugged,
> From Colchis brought, and from the jaws distilled.
> Of that hell hound Echida bore, whom erst
> Up through the darksome pathway cavernous

That slopes to hell, in adamatine chains,
Struggling with vain averted eyes to shun
The noontide beams, Alcides dragged to-day,
Furious, with triple howl, and scattering white
Around his rabid foam, that where it fell
Coagulate, from the fat and fruitful soil
Sucked nurture, and in growth of baneful herb,
Potent for ill upsprang—which from the rocks
The shepherds cull, and call it Aconite.[13(7.405-420)]

In Greece and Rome huntsmen sprinkled the juice of aconite on their arrows. After entering an open wound the juice affected the whole system, creating pains at the point of entrance, followed by cardialgia, a sense of suffocation, syncope, and anxiety. Calpurnius Bestia was accused of using aconite to kill his wives, while the tyrant Agatharchus killed many of his own people with the poison. Clearchus of Heraclea was likewise said to have poisoned house guests with aconite, and the old men of Ceos were reported given the juice of the plant when considered no longer useful. And in the Nepal war, at Hotonura, aconite was reputedly used to poison the streams and wells of the army.[2,6(27.2.4),15]

Later Roman history indicates that poisoning had become a high art among certain Roman ladies who concocted draughts for those "who had become inconvenient to them." Theophrastus alluded to a poison prepared from aconite which was popular because of its gradual effect upon the victim after a period of several months. Because of its reputed effectiveness, the cultivation of aconite became a capital offense.[13,16]

It is difficult to determine accurately when ancient medical writers began referring to aconite as a medicine rather than a poison. Avicenna's only comments, for example, were to various antidotes for aconite poisoning—antidotes which included emetics of mustard seed and eruca, garlic, a decoction of acorn shells in wine, theriaka, sea-holly boiled in goose broth, and the mouse which sometimes lived in the root of the plant. Although Theophrastus, Dioscorides, and Pliny held aconite in awe as "a mysterious, subtle, and terrible poison, of supernatural origin," Pliny was perhaps the earliest to note some therapeutic purpose in the poison, alluding to its employment in diseases of the eyes. Galen, in his *Book of Simple Medicine,* referred to aconite as a deadly poison but also noted that it was an appropriate local remedy for corroding the parts outside the mouth and anus. On the basis of these early observations, it can be as-

sumed that aconite was employed as a medicine from that time forward.[5,6,8,9,16-18]

Claudius Richard in 1524 initiated some of the earliest experiments on the poisonous qualities of aconite and the efficacy of its recommended antidotes. His tests were carried out upon condemned criminals, a practice common at that time. At the command of the Emperor of Austria, Richard poisoned a condemned robber with a dram dose of aconite. The victim suffered through all the signs of poisoning: vomiting, delirium, pains of the stomach and head, paralyzed legs, and finally collapse. To Richard's astonishment, the man recovered after eight hours of torment. With increased dosages, however, other victims suffered a less fortunate fate.[7]

In spite of these dubious experiments, the dispensatories and medical books of the 17th and 18th centuries made little reference to any remedial powers aconite might have had. At most, they seemed only to ascertain its poisonous properties and whether certain substances had power as antidotes. Although Heraclaeus Saxona reportedly employed aconite as a remedy for the plague in 1600, decoctions of the root were seldom recommended beyond killing lice, treating worms in horses, or mixing with butter or milk to kill flies.[9,19]

Introduction Into Modern Medicine

All this was to change when the Viennese physician Anton von Stoerck (1731-1803), of Swabia, published a pamphlet entitled *Libellus, quo demonstratur: Stramonium, Hyosciamum, Aconitum non solum tuto pose exhiberi usu interno hominibus, rerum et ea esse remedia in multis morbis maxime salutifera* in 1763. After first experimenting with aconite on himself, Storeck tested the effects of the poison on 14 patients, eight of whom were cured by the treatment. Taking small doses of the powder over a 14-day period, Stoerck noted the drug's ability to promote sweating, and considered it well adapted to diseases in which "the peccant matter may be expelled by the sudoriferous ports or emunctories." He concluded from these experiments that aconite acted as a narcotic, diuretic, and diaphoretic. Eventually, Stoerck recommended aconite for scirrhus, pains in joints, gout, paralysis, intermittent fever, amaurosis, scrofula, neuralgia, and chronic rheumatism. His instructions were as follows: "Take extract of Blue Monkshood, two grains; white sugar, two drachms; mix and grind them together for a long time in a marble mortar, to the finest powder.[4,7,19,20]

Stoerck's experiments were followed soon afterward by the work of Samuel A. Reinhold in 1769, Joachim Spalowsky (Stoerck's pupil) in 1777, and by J.L.C. Koelle in 1788. Their recommendations were endorsed by later physicians and employed for articular pains, rheumatism, hemicrania, rheumatic fever, tumor, paralysis, epilepsy, facial neuralgia, sciatica, and ascites.[9,19,21-26]

The Viennese, Anton DeHaen (1704-1776), who preferred clinical experience to experimentation, was one of the few who took issue with Stoerck and those praising the use of aconite in the treatment of rheumatism and similar illnesses. His opposition, however, did not prevent aconite from being received into the materia medica, where its qualities as both a poison and medicine were duly observed. Johann L.L. Loeseke first introduced aconite in his *Materia Medica Concentrata* in 1758, followed by Johan A. Murray in *Apparatus Medicaminum* in 1776, Jacob R. Spielmann in 1784, and later by Johann F. Gmelin in 1795 and Justus Arnemann in 1799.[27-31]

Before homeopathy made claims upon therapeutic use of aconite, orthodox physicians like Giovanni Rasori in Milan, Theophile de Bordeu, and many German phyiscians had prescribed aconite as an antipathic to inflammation after the violence of the inflammation had first been broken by venesection. They considered the action of aconite to be similar to that of tartar emetic, digitalis, and tobacco, which they prescribed in full doses.[32]

Notwithstanding aconite's successful employment in certain cases, the drug fell into disuse, in part because physicians expected it to do too much and also because of poisonings that resulted from lack of precise rules as to which class of cases demanded its administration. Physicians were faced with numerous instances of accidental poisoning, with patients sinking from gradual and progressive cessation of respiration and pulse. The old fashioned phrase "not agreeing with the patient" became the usual refuge for those physicians who found aconite contraindicated in their patients. Thus, after enjoying a reputation for depressing the heart's action and for lowering the circulation, aconite temporarily passed from notice among orthodox physicians.[33]

Adoption by Homeopathy

Samuel Hahnemann (1755-1843), of Meissen, the founder of the homeopathic system of medicine, introduced aconite once again into therapeutic practice. It was Hahnemann, too, who reintroduced the doctrine of

similia similibus curantur, or like cures like, a belief that disease could be cured by remedies which produced analogous symptoms upon the healthy organism. "In order to discover the true remedial powers of a medicine for chronic diseases," he wrote, "we must look to the specific artificial disease it can develop in the human body, and employ it in a very morbid condition of the organism which it wished to remove."[35,36,44]

The idea of similars, discovered 2,000 years earlier by Hippocrates and further elaborated upon in the 16th century by Paracelsus, was carried to philosophic heights by Hahnemann and his supporters.[37] It formed one of the four broad-based principles upon which the homeopathic system was founded. The first of these principles was that disease resulted from dynamic changes in the body's vital force; in other words, spiritual perturbations not dependent upon the body's material substance constituted the only form of disease. The second principle held that disease was most easily and completely cured by the effect of drugs whose therapeutic action closely simulated the symptoms of the disease itself. Implicit in this principle was the probability that therapeutic success increased with the similarity of the drug's symptoms in a healthy person to those of the disease. Also implied in this principle was the belief that no two diseased states could coexist in the body at the same time because the stronger would eventually expel the weaker of the diseases. Thus, a drug-induced disease could make a more powerful impression on the body than a spontaneous disease; the drug expelled the disease, and then its own effect, which was artifically produced, would slowly subside.[38,39]

In an effort to explain this concept, believers held that "the homeopathic atom may start or excite...infinitesimal changes of nutrition which shall quietly and imperceptibly affect organic movements of which we see only the beneficial result."[40] As homeopath Charles J. Hempel wrote in his *Materia Medica and Therapeutics* (1880):

> The aconite-force is within us...not actively, but in a state of potency, watching for an opportunity to break forth like a fury bent upon destroying the organism. Under the influence of some accidental cause, the slumbering aconite-force becomes a rebellious disease, and then it is that the healing artist steps in with the aconite-principle, as materialized in the plant, in contact with the aconite-disease, and obliges the latter, by virtue of its superior affinity to the former, to unite itself with the drug-molecules, and from an internal disease to become converted into an actual principle of limited and harmless dimensions.[3]

The third principle of the homeopathic system held that the power of drugs increased with their attentuation. This belief was fortified by the last principle, which held that the trituration or agitation of the medicinal mol-

ecule conferred new and augmented power upon the drug so treated. Both these principles required considerable explanation for believers and skeptics alike. To help explain these principles, homeopaths noted that drugs affected the animal economy in three different manners: mechanically, chemically, and dynamically. The mechanical action of a drug was determined by its physical properties (i.e., volume, density, weight, and shape), and was effective only when given in massive doses. The chemical action of drugs was exercised upon the material elements of the organism through "atomic displacements and transformations...between the molecules of the material drug, and those of the living tissues, or of those tissues which the chemical agent had succeeded, by its presence, in depriving of their vitality, and decomposing them." In this situation, the molecular activity operated "without the aid of the vital force." But in the dynamic action of drugs, the action taking place bore only upon the vital force in the living organism.[41,42]

Hahnemann recognized that in the attainment of this latter drug effect, an extreme reduction of the dosage was necessary, leading him ultimately to treat patients with homeopathic drugs attenuated in milk sugar or alcohol to millionths and even decillionths of a grain. According to fellow homeopath Alphonse Teste in 1854, Hahnemann had been led to believe that "the inherent power or principle of the drug might...be separated from the material envelope; a hypothesis which...changed all remedial agents to purely dynamic forces."[19]

In an article published in *Hufeland's Journal* in 1796 and entitled "A New Principle for Ascertaining the Curative Powers of Drugs," Hahnemann first noted the pathogenetic possibilities of aconite. When employed in proper dilutions, powerful poisons, including aconite, became "treasures of therapeutic value" which the medical profession could ill afford to ignore. Nine years later Hahnemann published his *Fragmenta de Viribus Medicamentorum Positivis, sive in Sano Corpore Humano Observatis.* This precursor to his later *Materia Medica Pura* (1811) accorded aconite with major therapeutic importance and provided a list of 147 symptoms which the drug reputedly caused when taken by healthy persons.[43,44,45]

Between 1805 and 1811 aconite was further "proven" or verified by G. A. Ahner, Wilhelm Gross, C. G. Hornburg, Ferdinand Rueckert, Ernst Stapf, and Wilhelm Wahle. Then in 1811 was issued the first edition of Arnold's *Materia Medica Pura* where Hahnemann listed some 206 symptoms of aconite and 108 symptoms listed by other observers. By the third edition, that of 1830, aconite was noted for as many as 541 symptoms. Al-

though Hahnemann had given a full record of pathogenetic effects of aconite in his *Materia Medica Pura,* the Vienna Provers' Union verified the symptoms created by the drug some 10 years later. Sixteen men and two women took part in the experiment, using doses ranging from five to 130 drops of the mother tincture. These provings were subsequently translated and published in the *Homeopathic Examiner* in 1846.[3,9,46,47]

The recommendations made by Hahnemann and other "provers" did not waver over the decades; later 19th century homeopaths were as supportive of aconite as in earlier years. Given the widespread acceptance of the law of *similia similibus curantur,* aconite became a most important remedy in those provings established by the use of the drug upon healthy persons. Only Teste among the homeopathic writers refrained from complete support, suggesting that aconite was contraindicated in pneumonia and croup, especially if taken after the initial period of inflammation.[8]

As a result of Hahnemann's extensive "provings," aconite became known as the homeopathic remedy almost universally prescribed in acute diseases, "especially those attended with fever and pain, in idiopathic as well as in symptomatic fever."[8] It earned the reputation as the homeopath's substitute for venesection. Hahnemann concluded in his *Materia Medica Pura* that aconite was an important febrifuge to be used as the sheet anchor in fighting disease. Following the constitutional approach to pathology, Hahnemann considered aconite more successful with the delicate and nervous than with the sanguine and robust. The "aconite person," or the one most susceptible to its remedial effects, was "plethoric, of lively disposition, bilious and nervous constitution, brown or black eyes and hair, deep color in the face and subject to active congestions."[7,38] One additional criterion which homeopaths used in prescribing aconite was whether the patient showed signs of fear or anxiety. "Whatever the complaint when there is this intense fear, it is well to think of Aconite," wrote T. L. Bradford of Philadelphia in 1913.[7] Specifically, aconite acted as a "precious calmer" in the treatment of women suffering "from fear or contrarieties during the catamenia." In these instances, a single globule of sugar impregnated with the 30th dilution of aconite was sufficient to bring relief.[38,48]

In general, Hahnemann prescribed medicines of the sixth, ninth, 12th, 18th, 24th, and 30th dilution. For aconite, however, he preferred to use the 12th and 30th dilution. Notwithstanding Hahnemann's preferences, homeopathic drugs were sometimes potentized to the 500th, and some even to the 2,000th potency. Much to the founder's dismay, homeopath

Equerry Jenichen of Wismer carried his attenuations to the astounding 16,000th.[49,50,51]

While Hahnemann prepared his successive potencies by mixing and dynamizing the dilutions by powerful shaking, other homeopathic entrepreneurs were more inventive. One of the high potency manufacturers, Dr. Fincke of Brooklyn, replaced shaking with a patented device that provided a succession of rinsings of the drug bottle with the medicinal molecules. Fincke assumed that with each rinsing the molecules in the solution would be potentized and thus strengthened accordingly.[3,52]

Orthodox physicians relished the opportunity to poke fun at Hahnemann and his theory of dynamization. His "sheet anchor" was no more than a combination of water and time and whose system was but a well disguised plan to carry out the expectant treatment for disease. One form of popular criticism included the often published poem entitled "Homeopathy."

Take a little rum,
  The Less you take the better;
Mix it with the Lakes
  Of Werner and Wetter.

Dip a spoonful out—
  Mind you don't get groggy.
Pour it in the Lake
  Winnipisiogee.

Stir the mixture well,
  Lest it prove inferior;
Then put half a drop
  Into Lake Superior.[53]

For the most part, American homeopaths fell among the "middle" to "low" range in terms of their choice of attenuations. Charles Hempel in his *Materia Medica and Therapeutics* (1880) recommended against the high attenuations as simply pretensions that had little meaning in therapeutics. "As a rule," he wrote, "both students and young practitioners [are] advised to refrain from lightly forsaking the beaten paths of experience in the matter of dose; they have been advised to adhere at the outset of their professional career to the lower and middle attentuations. . . ."[3]

Although 19th century regulars considered the infinitesimal doses dispensed by the homeopathic practitioner as a gigantic humbug, their aversion did not extend into the population at large. Indeed, when faced with

the prospect of bleeding, heroic doses of mercury and antimonials, or other similarly oppressive therapeutic regimes, patients as often as not chose the milder treatment of the homeopath. As Hempel, who was known as "Dr. Aconite" by his students, was to remark in 1850:

> Who would not rather give his child a few pellets of Hepar Sulphuris, Spongia, Bichromate of Potash, etc., to have it cured of Croup, than to have it bled, purged, crammed full of emetics, and to have its skin blistered by vesicatories? Or who would not rather be cured of pleuritis or Pneumonia in a few days by taking a few pleasant, harmless pellets of Aconite, Bryonia, Belladonna, etc. than by submitting to all the tortures of the regular treatment for three times the length of time required by the homeopathic practice?[50]

Beginnings in Orthodoxy

Aconite did not remain the exclusive property of homeopathy for long. Between 1830 and 1850, homeopathic authors such as Alvan E. Small, Joseph Pulte, Egbert Guernsey, Arthur Lutz, Joseph Laurie, Charles J. Hempel, John Ellis, and Constantine Hering began publishing books on domestic practice that were read by physician and layman alike. Small's *Manual of Homeopathic Practice,* for example, provided the same advice as the homeopathic *Materia Medica Pura* but in a format that was easy to read and consulted by the supporters of both homeopathy and allopathy. Before long, aconite had become a major cure-all in diseases complicated with febrile excitement of the circulatory system as well as in local troubles—a cure whose popularity surfaced in domestic medicine before eventually finding support in orthodox practice.[34,50,54-60]

Those regulars who with Hahnemann distrusted heroic dosages, refrained from prescribing the homeopath's dynamitized pellets for fear of having their names openly identified with "an eminently quack system." Instead, they preferred a quarter to a full drop of the mother tincture in water every half-hour, according to the circumstances, and always upon an empty stomach. "We are fully aware that Homeopathy contains an element of truth," wrote Archibald Reith in 1868. "Shall we continue to reject that element merely because Hahnemann buried it in so much rubbish? I cannot believe it."[61,62,77]

Symptomatic of this change in thinking was alkalometry, which represented itself as an intermediate between homeopathy and orthodox medicine by advocating the administration of minute doses of the most potent remedies given at short intervals. By avoiding "promiscuous formulas," "problematical remedies," and "crude drugs," alkalometry

promised a therapeutic regime that emphasized drug purity through the use of accurate, uniformly acting remedies in the form of soluble granules or tablets. As W. C. Abbott, editor of the *American Journal of Clinical Medicine,* noted in his journal: "Use the smallest possible quantity of the best obtainable means to produce a desired therapeutic result." For the practitioner of alkalometry (or dosimetrics as it was sometimes called), aconitine in doses of 1/500 gr. every half hour was prescribed in all conditions attended by fever and inflammation.[63]

In England attitudes were also changing. The physiological effects of aconite upon animals had been the subject of the experiments and research of Dr. Alexander Fleming of Edinburgh in 1844. His dissertation entitled "Physiological and Medicinal Properties of Aconite," won him a gold medal from the Senatus Academicus of Edinburgh. Several decades later, Frederic Bagshawe, assistant physician to the East Sussex and Hastings Infirmary, reported on the successful use of a liniment of aconite applied behind the left ear and down the neck in a case of spinal irritation and neuralgia. The liniment had the effect of blunting sensation in the parts supplied by the nerve, withdrawing nervous control over the blood vessels and reducing motive power. According to Bagshawe, aconite thus became "a powerful local remedy in our hands, not only as a controller of morbid sensation, but as a retarder of vascular action, and by consequence as a modifier of muscular action."[64,65]

For those physicians having second thoughts about bloodletting, salivation, or counterirritation, full or attentuated doses of aconite seemed a welcome respite. In 1856 George B. Wood (1797-1879) quoted from the earlier remarks of Fleming and Schroth and urged the profession to classify aconite as a nervous sedative. Support for Wood came from Jonathan Pereira (1804-1853), whose experiments in 1837-38 added to the information on the drug's application in disease. And Alfred Stille, whose *Materia Medica and Therapeutics* (3rd ed., 1868) recommended the use of aconite for rheumatism, gout, neuralgia, and allied diseases, did not, however, support its use to combat the febrile state.[8,66,67,68]

By the 1870s it was evident that increasing numbers of regulars were prescribing homeopathic drugs and relying more heavily on *vis medicatrix naturae,* or the natural healing power of the body. Joseph Lister (1827-1912), one of England's more noted surgeons, claimed to have derived his own knowledge of aconite and belladonna from homeopathy. He believed that had the power of aconite to abate vascular action been known earlier, it might have saved his father's life, which had been hastened by ill

prescribed copious venesection as the cure-all for such conditions.[40]

Before long, aconite had become a popular alternative to opium and chloral in the treatment of dysmenorrhoea and women's "climacteric period." Aconite was also a frequent remedy for hysteria, headache, and "nervous exaltation," and continued to be a popular remedy for neuralgia and those disturbances of the body which exhibited hyperemia or inflammation. Through its influence over the nervous system, the heart, the temperature, and the secretions, aconite remained a popular drug for nearly all situations manifested by acute inflammation during the early stages of the disease process. In combination with codeinea or morphia, small doses of aconite were also prescribed in malarious fevers, spasmodic croup, bronchitis, catarrhal pneumonia and general problems of the respiratory mucous membrane.[8,69,70,71]

The success of aconite in controlling inflammation was due in large part to the introduction of the thermometer into medical therapeutics in the closing decades of the 19th century. With this new diagnostic instrument, doctors were able to treat patients more effectively since the thermometer could provide an accurate reading of the level of inflammation and allow them to assess more carefully the particular stage of the disease. Not surprisingly, doctors also found themselves able to measure the effectiveness of their medicaments and, in the process, test the level of drug dosage needed to affect the body. "We feel constrained to point out," wrote one physician in 1873, "the signal service rendered by the thermometer in enabling us to decide whether or not aconite should be given. Indeed, in the treatment of inflammations, the thermometer and aconite should go hand in hand."[8]

Although the fifth edition of the *United States Dispensatory* (1843) made note of aconite's employment by regulars, it was not until the 12th edition of the *United States Dispensatory* (1868), which George B. Wood edited, that aconite was recommended as the appropriate treatment for 20 diseases, including antiphlogistic application in cases of cerebral congestion and inflammation. Like Wood's previous works, the dispensatory relied on Fleming as the authority for aconite's therapeutic use. Not until Horatio C. Wood, Jr. (1841-1920), in his *Treatise on Therapeutics* (1874), was there strong orthodox support of aconite's effectiveness as an antifebrifuge. Wood remarked: "The first of these is to lower arterial action and often with it excess of temperature. For this purpose aconite is almost invaluable." Austin Flint recommended aconite in place of tartar emetic or veratrum in the treatment of pneumonia. When given in the first stage

of the disease and when combined with salines, he preferred it to most other medicines and also to bleeding. And in 1876 Roberts Bartholow, professor of materia medica and general therapeutics at Jefferson Medical College in Philadelphia, recommended aconite as "an antagonist to the fever process" in his *Practical Treatise on Materia Medica and Therapeutics.*[41,72-76]

J. Winthrop Spooner, in an address before the Plymouth District Medical Society of Massachusetts in 1882, admitted the effectiveness of several homeopathic drugs. Their use, he argued, could be explained on strictly empirical grounds and not as the result of the set of principles espoused by Hahnemann. "Even if the theory upon which homeopathic drugs are introduced is proved to be false," he wrote, "it need not impair our faith in the usefulness of such medicines. The instances are numerous where drugs have been introduced and successfully used in accordance with the physiological theory, which theory has afterwards proved to be false." Spooner thought it wrong not to adopt medicines simply because homeopathy had incorporated the same drugs into its system. Spooner noted that "any person who believes [homeopathic] theories is too weak mentally to practice medicine or even to take care of himself. I presume in point of fact no person outside of an insane asylym could be found who in his heart believed such arrant nonsense." Nevertheless, there existed a community of orthodox physicians who preferred to "use medicines in small and frequently repeated doses."[41]

Sidney Ringer, professor of materia medica at University College, London, noted that "perhaps no drug is more valuable than aconite; its virtues are only beginning to be appreciated, but the author ventures to predict that ere long it will be extensively employed." While recognizing its usefulness, Ringer, like those before him, was quick to caution that aconite was effective in controlling inflammation; once inflammation advanced, however, the drug had little or no effect. In the sixth edition of his *Handbook of Therapeutics* (which went through 13 editions in the United States), Ringer praised aconite for its ability to control inflammation and subdue the accompanying fever. "Though it will not remove the products of inflammation," he wrote, "yet by controlling inflammation, aconite will prevent their formation, so saving the tissues from further injury."[8,77,78]

Over the course of the debate surrounding the therapeutic uses of *Aconitum napellus,* issues other than drug effectiveness were foremost in the minds of its users. Important questions of scientific medicine and clinical

experimentation competed alongside questions concerning the borrowing of medicines from a sectarian system outside the pale of medical orthodoxy. Clearly, orthodoxy was self-consciously regarding the achievements of a rival medical system and found itself in the sometimes embarrassing situation of explaining itself in ways that rivaled the most artful casuist. Notwithstanding the earlier use of aconite by Stoerck and others, aconite's acceptance into orthodox medical therapeutics was a product of pressures that extended far beyond the boundaries of traditional medicine.

THE THERAPEUTIC EMPLOYEMENT OF ACONITE (1860)[9]

	Regulars	*Homeopaths*
Fevers		
1) Simple, catarrhal, exanthematous, inflammatory	x	x
2) Rheumatic	x	x
3) Intermittent	x	x
Inflammations and congestions		
1) Of the respiratory organs	x	x
2) Of the heart	x	x
3) Of the eyes	x	x
4) In organic diseases of the heart	x	x
5) In all other inflammations of each organ, of a sthenic synochal character		x
Affections of the secerning and secreting organs		
1) Rheumatism and gout	x (old)	x
2) Dysentery	x (old)	x
3) Acute-exanthemata		x
4) Chronic exanthemata	x (old)	
Diseases of nervous system		
1) Neuralgias of every kind	x	
2) Neuroses	x	
Diseases affecting assimilation of blood		
1) Tuberculosis-pulmonum	x	x

2) Scrophulois	x	x
3) Carcinoma	x	x
4) Malleus-humidus	x	x
5) Pyaemia	x	x
Other Diseases		
1) Haemorrhages	x	x
2) Haemorrhoids	x	x
3) Hydrops	x	x
4) Fluor-albus	x	x
5) Cholera		x
6) Icterus		x

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